

Appl. No. : 10/615,332
Filed : July 8, 2003

REMARKS

In response to the Final Office Action mailed March 22, 2007, Applicant respectfully requests the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments and the Request for Continued Examination filed herewith.

Claim Rejections

Claims 12-14, 19-23 and 26 stand rejected as unpatentable over Murakami (USPN 6,126,994) in view of Modisette (USPN 3,981,156). Claims 15 and 16 stand rejected as unpatentable over Murakami and Modisette in view of Kaloyerros (USPN 5,376,409). Claims 17, 31 and 32 stand rejected as unpatentable over Murakami and Modisette in view of Kaloyerros and in view of Sturm (USPN 6,178,925). Claims 24 and 25 stand rejected as unpatentable over Murakami and Modisette in view of Van Buskirk (USPN 5,882,416). Claims 27-30 stand rejected as unpatentable over Murakami and Modisette in view of Bondestram (USPN 7,063,981). Claims 33 and 34 stand rejected as unpatentable over Murakami and Modisette in view of Gauthier (USPN 6,007,330).

Applicant respectfully disagrees with the rejection of these claims. Nevertheless, to advance prosecution, Applicant has amended independent Claim 12 such that it includes the limitations of canceled dependent Claims 27-29. Applicant reserves the right to pursue the previous version of Claim 12 in a similar form in a continuing application.

Claim 12 recites, in part, a method for providing vapor phase reactant from solid or liquid source, "returning the unvaporized liquid to the storage container; and returning the unvaporized liquid to the vaporization chamber."

In rejecting Claim 12, the Office Action states that Murakami "does not explicitly disclose the unvaporized liquid flowing from discharge passage 52 into reservoir 4, one of ordinary skill in the art would recognize that the only utility of connecting the discharge passage from the evaporator into the reservoir, especially given valve VB and line 20, would be to drain unvaporized liquid back into the reservoir that would eventually travel back to the vaporizer." Applicant respectfully disagrees. In this case, the connection Murakami merely discloses common connections and passages between the passage 52 and the container 4. Within these common connections are line 20 and valve VB. These components do have a purpose that is not

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related to draining the unvaporized liquid back to the reservoir. Specifically, the common passages serve another purpose. Specifically, as stated at Col 5, lines 48-55, Murakami discloses that:

In the present embodiment, considering a case that the residual liquid, etc. cannot be sufficiently drawn off by draw through the discharge passage 52, a purge (washing) liquid supply passage 64 is connected to the second pressure liquid supply passage 24B through a pressurization passage 10 which can be disconnected by a valve operation. Purge (washing) liquids can be alcohol, such as ethanol, methanol, etc., and organic solvents, such as hexane, etc.

Thus, there is an equally sufficient use for the valve VB, specifically to provide isolation during purge (washing).

For example, Murakami also discloses at Col. 8, lines 1-10:

First, the first and the second opening/closing valves VA, VB of the reservoir 4 in FIG. 1 are closed to place the reservoir out of communication. The first shut-off valve V1 of the second pressure liquid supply passage 24B is opened, the second shut-off valve V2 thereof being closed. The first and the second discharge shut-off valves V5, V6 of the branched passages 54A, 54B communicated with the discharge passage 52 are closed, the third discharge shut-off valve V7 of the branched passage 54C and the main opening/closing valve V4 being opened.

Thus, residual liquid material on the mouth ring of the pipe of the reservoir 4, and that on the mouth ring for connection between the second pressure liquid supply passage 24B and the reservoir 4 is drawn and expelled through the discharge passage 52.

In addition, Applicant submits there is no motivation in this reference or the other cited references to modify or use such passages to return the unvaporized liquid to the container 5. Murakami teaches away from such a modification or combination by disclosing "a cold trap 60 for removing liquid from exhaust." Col. 5, lines 38-40.

The Office Action cites Modisette for the teaching that one would want to recover vapors in chemical processes and return them to a storage container to prevent the loss of valuable material. However, Claim 12 recites, in part, "*returning the unvaporized liquid to the storage container; and returning the unvaporized liquid to the vaporization chamber.*" In contrast, Modisette is concerned with collecting vaporized liquid that has been already sprayed through the nozzle 4. See

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Col. 3, lines 15-25. Thus, the proposed combination does not disclose, teach or suggest all of the claim limitations and thus does not provide a *prima facie* case of obviousness.

As stated in the application, the claimed method advantageously provides for “hold[ing] the bulk of liquid reactant (or solid reactant dissolved in a liquid solvent) outside of the reactor hot zone(s), and so are not subject to decomposition from prolonged exposure to high temperatures.” Moreover, “[r]efilling the storage container outside of the hot zone(s) is simplified, and the bulk of the liquid reactant is not subject to prolonged exposure to destabilizing temperatures.” “At the same time, the advantages of maintaining a vaporization chamber within a hot zone are maintained.” “Furthermore, between deposition runs, or periodically when not needed, remaining liquid reactant in the vaporization chamber can be drained back to the storage container or to a separate drain container, where cooler temperatures are maintained.” These advantages cannot be obtained by combining the teachings of Modisette with the teachings of Murakami in that Modisette is directed to recycling sprayed or *vaporized* liquid.

For at least these reasons, Applicant submits that Claims 12-34 as amended are in condition for allowance

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicant's attorney in order to resolve such issue promptly.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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